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INTERMOUNTAIN FOREST AND RANGE EXPERIMENT STATION
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Forest Service

MOUNTAIN PINE BEETLE INFESTATION
ASHLEY NATIONAL FOREST
UTAH

APPRAISAL SURVEY
1957

By
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Ogden, Utah

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INTRODUCTION

Infestations of the mountain pine beetle, Dendroctonus monticolae (Hopk.), on the present-day Ashley National Forest are relatively new. These infestations began rather modestly about 1953 at which time a definite upward trend of beetle activity was observed on the Mountain View Ranger District, Wasatch National Forest. This district has previously been a part of the Ashley Forest but with its transfer to the Wasatch Forest in 1954 went a long and persistent history of beetle epidemics on the Ashley Forest.

The old epidemics in the Provo River and Iron Mountain areas have subsided to an endemic level However, a few other areas of infestations have arisen and periodic appraisal surveys were conducted to evaluate their significance. Since no control projects developed the appraisal-type survey was discontinued in 1952 and annual aerial observations substituted.

SURVEY METHODS

This year several types of surveys were conducted. Since control work was under way operational surveys were performed as well as 10 percent appraisals and reconnaissance surveys. Excellent data were taken by Ashley Forest personnel under the direction of Val Simpson, District Forest Ranger. The appraisal survey, a systematic ground cruise, was conducted on areas known or suspected to contain infestations. A 1/5-acre plot was established every 2 chains along parallel lines run in the cardinal direction most nearly perpendicular to the major contours. For a 10 percent cruise, lines were spaced 10 chains apart. At each sample plot the number of newly attacked trees and trees attacked in 1956 ("red tops") were tallied and recorded. The number of trees killed prior to 1956 and green trees were tallied at every tenth plot, thus giving a 1 percent cruise for this particular data.

On three of the five areas surveyed, estimates of newly attacked trees and acreage involved were derived by scouting

SUMMARY

Analysis of data collected show that approximately 4,480 trees are infested with mountain pine beetle on the Ashley Forest. These infestations cover approximately 8,344 acres, averaging 0.73 infested tree per acre within the surveyed areas and 0.07 tree per acre within the scouted areas.

The estimates of infestation, derived by the 10 percent survey, show a slight decrease of new attacks to red tops. However, a loss of about 8 percent has occurred within these lodgepole pine stands. Proportionally the greatest loss is within the smaller diameter classes (6-14 inch DBH). This is in contrast to the loss by diameter classes for the Wasatch Forest, but may be indicative of the stage and extensiveness of the respective infestation.

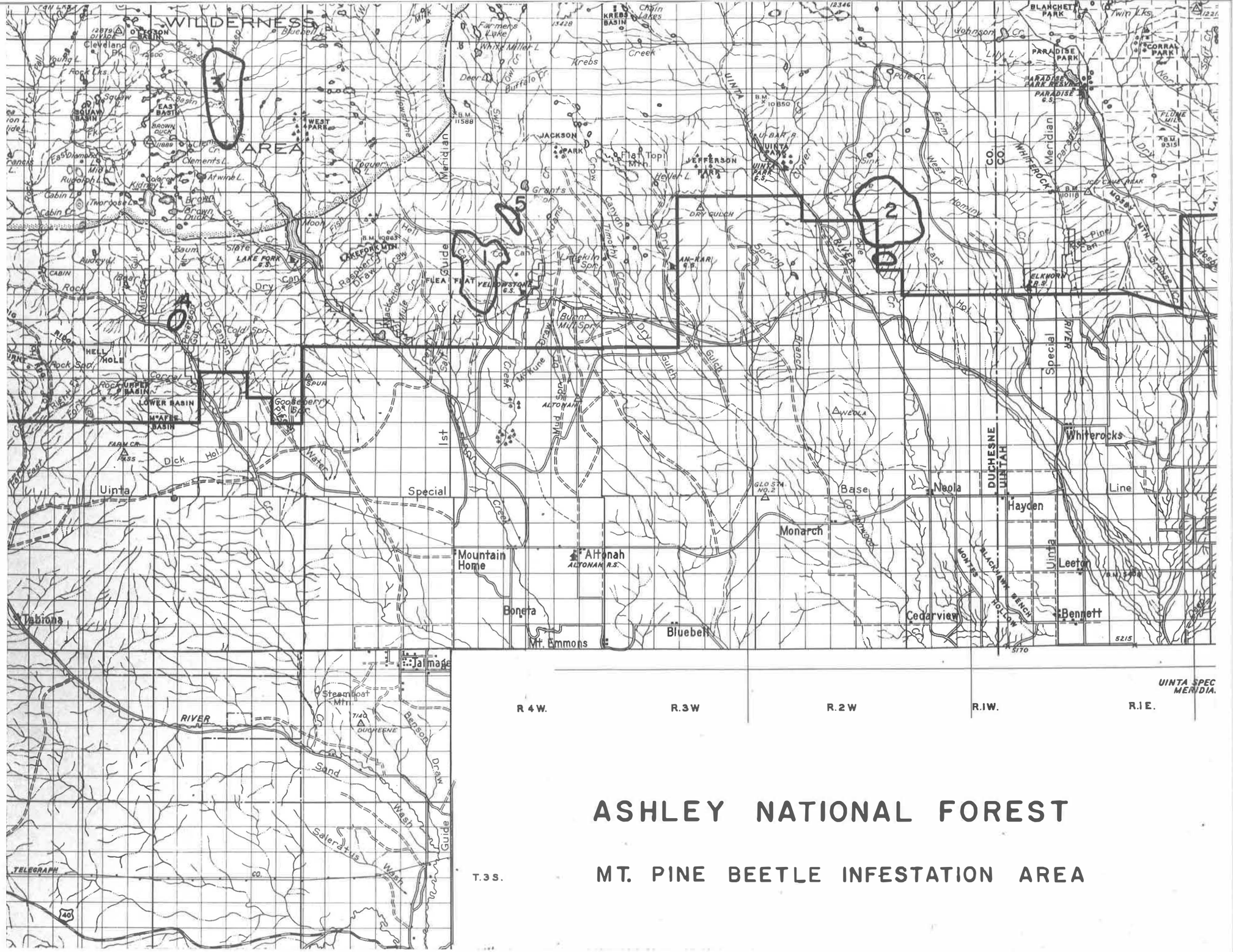
Due to the increased mountain pine beetle activity elsewhere; i.e., Sawtooth, and Targhee Forests and Teton National Park, the Ashley should be kept under close surveillance.

Table 1.--1957 survey estimates of the mountain pine beetle infestation on the Ashley National Forest, Utah

Unit	Acres	N. A.	N.A./Ac.	Red tops	Buildup ratio NA:RT	Percent Survey
1. Hell Can.	1,036	120	0.12	750	0.16:1	10
2. Pole Cr.	3,168	4,010	1.26	2,980	1.35:1	10-scouted
3. Lake Fk.	3,500	100	0.03	-	-	scouted
4. Rock Cr.	640	100	0.16	-	-	scouted
5. Upper Yellowstone	1,000	150	0.15	-	-	scouted
Total	8,344	4,480	0.54	3,730	-	-

Table 2.--Percentage by diameter class and stand killed or infested by the mountain pine beetle on the Ashley National Forest, Utah

Unit	Diameter Class 6	8	10	12	14	16	18	20	22	24 over	Percent of Stand
	Percentage										
1. Hells Can.	6	8	9	9	100	-	-	-	-	-	7
2. Pole Cr.	5	8	12	22	12	13	19	7	0	1	9
Total	5	9	13	16	14	13	19	7	0	1	9



ASHLEY NATIONAL FOREST

MT. PINE BEETLE INFESTATION AREA